

CLAIMS

What is claimed is:

1. A content server for delivering content to a remote player, comprising:
 - a transceiver link for communicating with the remote player;
 - a first program component for accepting user content preferences;
 - a second program component for locating content responsive to the user content preferences; and
 - a third program component for establishing communication with the remote player using the transceiver link and using such link for communicating one or more content files responsive to the user content preferences for storage on the remote player.
2. The content server of claim 1, wherein the transceiver link for communicating with the remote player comprises a wireless connection.
3. The content server of claim 1, wherein the transceiver link for communicating with the remote player comprises a wired connection.
4. The content server of claim 1, wherein the transceiver link for communicating with the remote player comprises a wireless local area network.
5. The content server of claim 1 in combination with the remote player, wherein the remote player is a multi-purpose player for use as two or more of: a portable, a vehicle, and a home digital content player.
6. The content server of claim 1, wherein the remote player and the transceiver link are adapted to use a broadband wireless network.
7. The content server of claim 1 in combination with the remote player, wherein the remote player further comprises an FM transmitter that transmits audio content from the remote player to an FM receiver.

8. The content server-remote player combination of claim 7, wherein the FM receiver is an FM receiver in at least one of a vehicle, a home or an office.

9. The content server-remote player combination of claim 7, wherein the remote player further comprises an FM band receiver adapted to scan an FM band and find for the FM transmitter an FM frequency suitable to transmit audio content.

10. The content server of claim 1, wherein the user content preferences comprise specification of one or more of the following:
a song title;
a playlist of song titles;
a genre associated with a content file;
an album title;
an artist; or
another item of metadata associated with a content file.

11. The content server of claim 1, wherein the user content preferences include a predetermined time schedule for communicating the one or more content files using the transceiver link to the remote player.

12. The content server of claim 1, wherein the user content preferences include a predetermined schedule that allows time shifting between when the content file is located and when the content file is listened to on the player.

13. The content server of claim 1, further comprising a fourth program component for managing content files, said fourth component adapted to store metadata associated with content files and to receive user-specified metadata for association with content files.

14. The content server of claim 1, wherein the remote player stores a usage file that tracks content playback and communicates the usage file to the content server.

15. The content server of claim 14, wherein the content server has stored user content preference information and the usage file is configured for analysis by the content server and for facilitating modification of the stored user content preferences in response to the usage file.

16. The content server of claim 15, wherein the usage file comprises information on the frequency of playback of content files, skipping of content files and failure to play content files to completion and the content server modifies the stored user content preferences in response to said information.

17. The content server of claim 14, wherein the usage file comprises information on when content has been played and the content server in response to receiving information on when content has been played modifies user preferences to provide for replacement of the content that has been played with content files newly transmitted to the remote player.

18. The content server of claim 1, further comprising an Internet connection component for connecting to the Internet for receiving updates to user preferences, said updates having been accepted as input at the player and being transmitted from the player via the Internet.

19. The content server of claim 1, wherein the second program component for locating content further comprises code for finding a content file in storage locally attached to the content server or in a website accessed by the content server.

20. The content server of claim 1, wherein the third program component becomes operable for transmitting a content file in response to a time schedule as specified in user preferences for recording of streamed content streamed at a specified time.

21. A player for storing and playing back media content received from a content source pursuant to stored user preferences, comprising:

a storage medium for storing media content for playback;
a transceiver link for communicating with the content source; and
a first instruction component for establishing communication with the
content source using the transceiver link and using such link for
downloading onto the storage medium one or more content files responsive to
stored user content preferences.

22. The player of claim 21, wherein the player further comprises a first
docking station connector used as two or more of: a wired content
communication interface, a power charging interface, a digital content
output interface, an analog content output interface, and an electronic
control interface.

23. The player of claim 21, wherein the player further comprises a second
docking station connector used for a vehicle docking connector with an
analog content output, a digital content output and a power input.

24. The player of claim 21, wherein the player further comprises a
rechargeable battery and battery charging circuitry.

25. The player of claim 21 wherein the player is configured to use as a
content source one or more of the following: a personal computer, a peer
player, or a website.

26. The player of claim 21, wherein the transceiver link comprises a
wireless transceiver link.

27. The player of claim 21, wherein the transceiver link comprises a
wired transceiver link.

28. The player of claim 21, wherein the transceiver link comprises a
wireless local area network.

29. The player of claim 21, further comprising a second instruction
component for managing content downloading, the second instruction
component enabling a user to define for communication to a content source
user content preferences based on one or more of the following:

a song title;
a playlist of song titles;
a genre associated with a content file;
an album title;
an artist; or
another item of metadata associated with a content file.

30. The player of claim 21, further comprising a second instruction component for managing content downloading, the second instruction component enabling a user to define for communication to a content source user content preferences specifying a schedule for when content is downloaded to the player.

31. The player of claim 21, wherein the player stores a usage file that tracks content playback and communicates the usage file to the content source.

32. The player of claim 31, wherein the content source has stored user content preference information and the usage file is configured for analysis by the content source and for facilitating modification of the stored user content preferences in response to the usage file.

33. The player of claim 31, wherein the usage file comprises information on the frequency of playback of content files, skipping of content files and failure to play content files to completion and the content source modifies the stored user content preferences in response to said information.

34. The player of claim 21, further comprising:
a playback device for creating a playback signal from the stored media content;
a playback transmitter for short range broadcast transmission of the playback signal modulated onto a broadcast signal; and

a frequency selector for surveying ambient broadcast transmissions and responsive to the ambient broadcast transmissions, selecting a broadcast signal frequency for the playback transmitter that reduces interference between the selected broadcast signal and the ambient broadcast transmissions.

35. The player of claim 34 wherein the playback signal is an audio signal and it is modulated onto an FM broadcast band signal.

36. The player of claim 34 wherein the frequency selector comprises a broadcast band receiver, said broadcast band receiver adapted also to provide music for realtime or near-realtime playing on the player or for processing and storing as a content file.

37. The player of claim 35 further comprising a headphone connector and a sensor operatively connected to the headphone connector for inhibiting operation of the playback transmitter when a headphone is connected to the headphone connector.

38. The player of claim 34 further comprising an encoder and means for accessing text data in metadata associated with the stored media content and transmitting the text data for reception in coordination with the selected broadcast signal, wherein the encoder encodes according to RDS or equivalent.

39. The player of claim 21 further comprising an interface associated with the player for receiving user preference information and transmitting it via a wireless transceiver link to the content source.

40. The player of claim 21 further comprising a docking station with two or more of the following interfaces:

- (a) a docking connector power interface,
- (b) a docking connector analog audio interface,
- (c) a docking connector digital audio interface,

(d) a docking connector universal serial bus interface,

(e) a docking connector data interface,

(f) a docking connector control interface,

wherein the player is easily mounted to and dismounted from the docking station providing power to the player via said docking connector power interface, analog audio output via said docking connector analog audio interface, digital audio output via said docking connector digital audio interface, a serial bus interface via said docking connector universal serial bus interface, a data interface to an external computer via said docking connector data interface and a control interface to an external computer via said docking connector control interface.

41. A method of delivering content to a remote player, comprising the steps of:

controlling a transceiver link associated with a content server for communicating with the remote player;

accepting user content preferences for storage accessible by the content server;

locating content responsive to the user content preferences on the content server; and

establishing communication with the remote player and using the transceiver link to download content to storage on the remote player responsive to the user content preferences.

42. The method of delivering content to a remote player in accordance with claim 41 wherein the step of using the transceiver link includes allocating two or more partitions of the storage on the remote player to a specified content form associated with each of the two or more partitions and managing content stored on the remote player in accordance with the allocated partitions and their respective specified content forms.

43. The method of delivering content to a remote player in accordance with claim 42 wherein the specified content form for one of said two or more allocated partitions is a playlist, whereby the allocated partition of the storage on the remote player is limited to the content of the playlist and content specified in the playlist is stored only when space is available in the allocated partition.

44. The method of delivering content to a remote player in accordance with claim 42 wherein the specified content forms comprise two or more of music content data, voice data and PDA data.

45. The method of claim 41 wherein the step of controlling a transceiver link associated with a content server comprises controlling a wireless transceiver link.

46. The method of claim 41 wherein the step of controlling a transceiver link associated with a content server comprises controlling a wired connection transceiver link.

47. The method of claim 41 wherein the step of controlling a transceiver link associated with a content server comprises controlling a wireless local area network link.

48. A digital accessory for use in a vehicle having a battery and an electrical system with a charging circuit for recharging the battery, said digital accessory having an on-state and a standby-state, comprising:

 a power connection for connecting the accessory to a vehicle's electrical system to derive operating power;

 a power sensor for sensing operation of the charging circuit; and

 a switch responsive to the power sensor for placing the accessory in the on-state when the power sensor indicates that the charging circuit is recharging the battery and placing the accessory in the standby state when the power sensor indicates that the charging circuit is not recharging the battery.

49. The digital accessory of claim 48 wherein the digital accessory is a content player.

50. The digital accessory of claim 49 further comprising a wireless link to a content server and means for enabling a download from the content server notwithstanding the stand-by-state of the accessory.

51. The digital accessory of claim 50 wherein the means for enabling a download comprises memory for storing a time for a scheduled download event and for activating the accessory to the on state in response to the time for the scheduled download event.

52. The digital accessory of claim 49 wherein the digital accessory has a general purpose data processor and a program component running on the general purpose data processor for maintaining vehicle service information.